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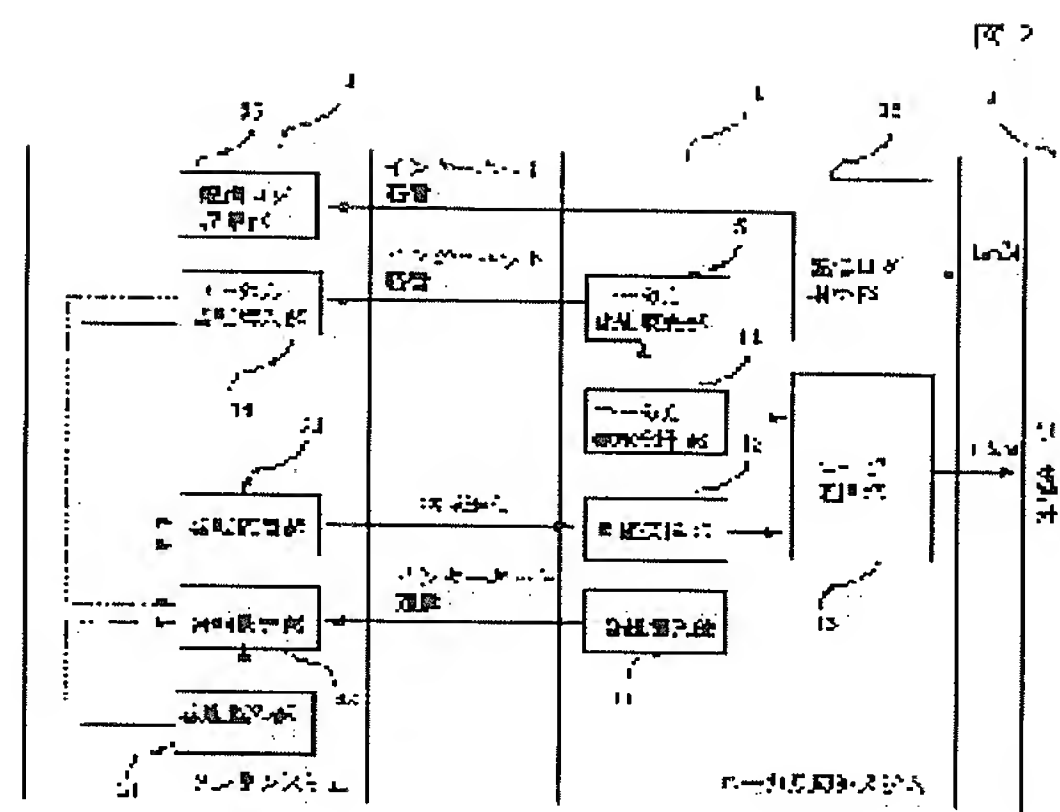
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## (54) VIDEO/AUDIO PROGRAM DISTRIBUTION SYSTEM

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a video/audio program distribution system capable of efficiently distributing diversified video/audio programs without the need for an end user to equip with a particular facility.

**SOLUTION:** A user of a local station system 1 uses a program purchase section 11 to purchase a video/audio program from a program sales section 32 of a center system 3. A program distribution section 33 of the center system 3 distributes the purchased program to a video reception section 12 of each local station system 1 purchasing the video/audio program in a multicast form by satellite communication. A user distribution section 13 distributes streaming of the video audio program received by the program reception section 12 in the local station system 1 to a user terminal 4 in a multicast form via a LAN 5 and the user terminal 4 reproduces the video/audio program. On the other hand, the user produces a local video/audio program by using a local program production section 14 in the local station system 1 and uses the user distribution section 13 to distribute the streaming of the program to the user terminal 4 in a multicast form.



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CLAIMS

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[Claim(s)]

[Claim 1]A center system and two or more local broadcasting station systems connected with said center system via satellite communication characterized by comprising the following, A video voice program distribution system which has two or more user terminals connected with either of said local broadcasting station systems via a local network.

Said center system has a file distribution means which carries out the multicasting file transfer of the video voice program data file to two or more local broadcasting station systems via satellite communication, A memory measure which memorizes a video voice program data file in which the file transfer of said local broadcasting station system was carried out from said center system.

A distribution schedule means which creates a distribution schedule of a video voice program of a video voice program data file memorized by said memory measure to said user terminal.

A user distribution means which carries out streaming of the video voice program of a video voice program data file memorized by said memory measure to said user terminal in multicasting form via said local network according to a distribution schedule which said distribution schedule means created.

[Claim 2]Have the following and said file distribution means a video voice program data file of a video voice program which received a demand of distribution, A video voice program distribution system which reads from said video program library and is characterized by carrying out a multicasting file transfer to each local broadcasting station system which received a demand of the distribution concerned collectively asynchronously [ a demand of the distribution concerned ].

A video program library where it is the video voice program distribution system according to claim 1, said center system and said each local broadcasting station system are connected on the Internet, and said center system accumulated two or more video program data files.

A distribution request receiving means which receives a demand of distribution to said local broadcasting station system of a video voice program accumulated in said video program library via said Internet.

[Claim 3]Are the video voice program distribution system according to claim 1 or 2, and said local broadcasting station system, Have a streaming means which carries out multicasting streaming transmission of the video voice program data to two or more local broadcasting station systems via satellite communication, and said distribution schedule means, From said center system to said user terminal, a distribution schedule of a video voice program by which multicasting streaming transmission is carried out also creates it, and said user distribution means, According to a distribution schedule which said distribution schedule means created, a video voice program by which multicasting streaming transmission is carried out from said center system by hooking up to said local network, A video voice program distribution system carrying out streaming to said user terminal in multicasting form.

[Claim 4]Have the following and said streaming means, To each local broadcasting station system which received a demand of distribution of a video voice program of said live distribution schedule. A video voice program distribution system characterized by carrying out multicasting streaming transmission of the video voice program data of a video voice program which received a demand of the distribution concerned by which live relay is carried out collectively with said center live relay system in a period

which performs the live distribution concerned.

A center live relay system with which it is the video voice program distribution system according to claim 3, said center system and said each local broadcasting station system are connected on the Internet, and said center system carries out live relay of said video voice program.

A distribution request receiving means which receives a demand of distribution to said local broadcasting station system of a video voice program of a live distribution schedule via said Internet.

[Claim 5]Are the video voice program distribution system according to claim 1, 2, 3, or 4, and said local broadcasting station system, Have a local program processing means which is not the video voice program transmitted from said center system to memorize a local video voice program to said memory measure, and said distribution schedule means, A distribution schedule of said local video voice program memorized by said memory measure to said user terminal also creates it, and said user distribution means, According to a distribution schedule which said distribution schedule means created, read said local video voice program from said memory measure, and via said local network, A video voice program distribution system carrying out streaming to said user terminal in multicasting form.

[Claim 6]Are the video voice program distribution system according to claim 5, and said center system and said each local broadcasting station system are connected on the Internet, and said local broadcasting station system, Said local video program data file of a video voice program memorized to said memory measure via said Internet, A video voice program distribution system having a program transfer means which carries out the file transfer of the video program data file of said local video voice program which received a demand of distribution to said center system, and received a demand of distribution to said center system via said Internet.

[Claim 7]Are the video voice program distribution system according to claim 1, 2, 3, 4, 5, or 6, and said local broadcasting station system, Have a relay system which carries out live relay of the video voice program, and said distribution schedule means, From said relay system to said user terminal, a distribution schedule of a video voice program by which live relay is carried out also creates it, and said user distribution means, A video voice program distribution system characterized by carrying out streaming of the video voice program by which live relay was carried out from said relay system to said user terminal in multicasting form via said local network according to a distribution schedule which said distribution schedule means created.

[Claim 8]The video voice program distribution system comprising according to claim 1, 2, 3, 4, 5, 6, or 7: A history collecting means in which said center system and said each local broadcasting station system are connected to on the Internet, and said local broadcasting station system collects histories of distribution of a video program to said user terminal.

A distribution history report means to report a history of distribution of collected video programs to said center system via said Internet.

[Claim 9]A video voice program distribution system given in claim 1, 2, 3, 4, 5, 6, 7, or 8 characterized by comprising the following.

Said center system and said each local broadcasting station system are connected on the Internet, and said local broadcasting station system, A questionnaire means to carry out a questionnaire to a user of the user terminal concerned via said local network and said user terminal, and to collect replies of a questionnaire from a user via said user terminal and said local network.

A questionnaire report means to report a reply of collected questionnaires to said center system via said Internet.

[Claim 10]A video voice program distribution system which has two or more local broadcasting station systems connected via a network of a wide area characterized by comprising the following, and two or more user terminals connected with either of said local broadcasting station systems via a local network.

A distribution request receiving means in which said each local broadcasting station system receives a demand of distribution to other local broadcasting station systems of a video voice program via a network of said wide area.

A distribution means which carries out the multicasting file transfer of the video voice program which

received a demand of distribution to each local broadcasting station system which received a demand of the distribution concerned collectively via a network of said wide area.

A user distribution means which carries out streaming of the video voice program transmitted from other local broadcasting station systems to said user terminal in multicasting form via said local network according to a predetermined distribution schedule.

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[Translation done.]



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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to the video voice program distribution system which distributes the video voice program which comprises an image and a sound via a network.

[0002]

[Description of the Prior Art]As a distribution gestalt of the video voice program which comprises an image and a sound, the gestalt by the radio broadcasting known as terrestrial TV broadcasting or satellite television transmission is the most common. As a distribution gestalt of a video voice program, the gestalt by the cable transmission known as cable TV is also known.

[0003]On the other hand, it gropes for distributing a video voice program to each user by an IP multicast with the spread of the Internet in recent years, and broadband-izing of the connecting section of the end user and the Internet which are called last one mile.

[0004]

[Problem(s) to be Solved by the Invention]The distribution gestalt of the video voice program using the above-mentioned Internet, not requiring special license from not using the non-line zone region which is the limited physical resource, and using the existing Internet equipment -- realization -- a user opens a possibility that a broadcasting station can be established at little burden, from things being made.

[0005]However, the network with which the art of an IP multicast supports the IP multicast under the present circumstances the place where all the network sections of a before [ from a distributing agency / a distribution destination ] need to support the IP multicast is limited. For this reason, there is a problem in distributing a video voice program broadly by an IP multicast.

[0006]On the other hand, in recent years, art which makes IP multicast connection of between ground devices using satellite communication is realized. According to such art, it becomes possible to broadcast a video voice program broadly, but the special equipment for receiving a video voice program from a satellite will be needed also for the end user side. The non-line zone region which is the common resources about a large area will be consumed to perform local broadcast which limited the area, and. The comparatively large-scale equipment for transmitting a video voice program also to the local broadcasting station which performs such local broadcast via a satellite will be needed.

[0007]Then, this invention makes it SUBJECT to provide the video voice program distribution system which can distribute various video voice programs efficiently, without needing special equipment for an end user.

[0008]

[Means for Solving the Problem]A center system whose this invention is characterized by that a video voice program distribution system comprises the following for said SUBJECT achievement, A video voice program distribution system which has two or more local broadcasting station systems connected with said center system via satellite communication, and two or more user terminals connected with either of said local broadcasting station systems via a local network.

Said center system has a file distribution means which carries out the multicasting file transfer of the video voice program data file to two or more local broadcasting station systems via satellite communication, A memory measure which memorizes a video voice program data file in which the file transfer of said local broadcasting station system was carried out from said center system.

A distribution schedule means which creates a distribution schedule of a video voice program of a video

voice program data file memorized by said memory measure.

A user distribution means which carries out streaming of the video voice program of a video voice program data file memorized by said memory measure to said user terminal in multicasting form via said local network according to a distribution schedule which said distribution schedule means created.

[0009]According to such a video voice program distribution system, special equipment is unnecessary to a user terminal, and it is sufficient if each local broadcasting station system is also provided with equipment with which it is only receivable about satellite communication. Since a video program from a center system to each local broadcasting station system is distributed in multicasting form, a non-line zone region can be used effectively. By that of \*\* which can perform multicast distribution of a video voice program from a local broadcasting station system to each user terminal if it corresponds to multicast distribution in a network which is local, therefore was limited. A problem which has been produced by existence of the section corresponding to un-[ multicasting ] on the Internet can be solved comparatively easily.

[0010]In such a video voice program distribution system here to said local broadcasting station system. Equip two or more local broadcasting station systems with a streaming means which carries out multicasting streaming transmission of the video voice program data via satellite communication, and said distribution schedule means, From said center system, a distribution schedule of a video voice program by which multicasting streaming transmission is carried out also creates it, and said user distribution means, According to a distribution schedule which said distribution schedule means created, a video voice program by which multicasting streaming transmission is carried out from said center system by hooking up to said local network, If it is made to carry out streaming to said user terminal in multicasting form, it can distribute to real time from a center system also about a video voice program of live form at a user terminal.

[0011]Selection of a local broadcasting station system of a video voice program or a distribution destination distributed from a center system, A distribution request receiving means which receives a demand of distribution to said local broadcasting station system of a video voice program via the Internet to a center system is established, It is good to perform a video voice program which received a demand of distribution a local broadcasting station system which required distribution, and by carrying out multicasting streaming transmission collectively. A video program to which each local broadcasting station system was distributed from a center system, A distribution schedule which combined a local video voice program manufactured in the local broadcasting station system is created, and it may be made to carry out streaming to said user terminal in multicasting form via said local network also about a local video voice program.

[0012]By [ these ] making it like, it becomes possible to distribute a video voice program of a request of a center system, and a video voice program to a user terminal by a program configuration with originality which combined a video voice program created locally for every local broadcasting station system.

[0013]It is preferred that such a local video voice program is transmitted to a center system via the Internet, and it can be made to carry out to other local broadcasting station systems from a center system multicast transfer of it via satellite communication. By doing in this way, it can include now in a self program configuration in other local broadcasting station systems also about a local video voice program of a certain local broadcasting station system. In said local broadcasting station system, histories of distribution of a video program to said user terminal are collected, In said local broadcasting station system in reporting a history of distribution of collected video programs to said center system via said Internet \*\*\*\*, A questionnaire to a user of the user terminal concerned is carried out via said local network and said user terminal, It may be made to report a reply of a questionnaire which collected and collected replies of a questionnaire from a user via said user terminal and said local network to said center system via said Internet.

[0014]By doing in this way, a grade of viewing and listening of a video voice program and evaluation can be systematically managed now in a center system. Two or more local broadcasting station systems which connected this invention to a video voice program distribution system via a network of a wide area characterized by comprising the following for said SUBJECT achievement, A video voice program distribution system which has two or more user terminals connected with either of said local broadcasting station systems via a local network.

A distribution request receiving means in which said each local broadcasting station system receives a



demand of distribution to other local broadcasting station systems of a video voice program via a network of said wide area.

A distribution means which carries out the multicasting file transfer of the video voice program which received a demand of distribution to each local broadcasting station system which received a demand of the distribution concerned collectively via a network of said wide area.

A user distribution means which carries out streaming of the video voice program transmitted from other local broadcasting station systems to said user terminal in multicasting form via said local network.

[0015]By doing in this way, a distributed type broader-based distribution system which can also use a video voice program of other local broadcasting station systems can be built to mutual [ which comprises two or more local broadcasting station systems ].

[0016]

[Embodiment of the Invention]Hereafter, the embodiment of this invention is described. The composition of the video voice program distribution system concerning this embodiment is shown in drawing 1. So that it may illustrate this video voice program distribution system, Two or more local broadcasting station systems 1, A video voice program via the satellite communication by the satellite 2 to each local broadcasting station system 1. It has the user terminal 4 which receives distribution of a video voice program from the center system 3 which carries out IP multicast distribution, and the local broadcasting station system 1 via LAN5, such as a local TCP/IP network and a cable TV network. The local broadcasting station system 1 and the center system 3 are accommodated in the Internet 6 via direct or LAN5. Here, between the local broadcasting station system 1 and the satellite 2, it gets down and only a circuit is set up. That is, the local broadcasting station system 1 can perform reception from the satellite 2.

[0017]First, the outline of the flow of the video voice program distribution in such a video voice program system is explained. The outline composition of the center system 3 and the local broadcasting station system 1 is shown in drawing 2. In the center system 3, a user manufactures a video voice program using the program production part 31. The user of the local broadcasting station system 1 is the program order department 11, and purchases the video voice program manufactured in the center system 3 from the program sales department 32 of the center system 3. The program purchased by the local broadcasting station system 1 is distributed to the program receive section 12 of the local broadcasting station system 1 which is a gestalt of multicasting by satellite communication and purchased the video voice program by the program distribution part 33 of the center system 3. In the local broadcasting station system 1, in the user distribution part 13, streaming of the video voice program received in the program receive section 12 is carried out to the user terminal 4 with the gestalt of multicasting via LAN5, and it is reproduced in the user terminal 4.

[0018]On the other hand, in the local broadcasting station system 1, the user can also manufacture a local video voice program using the local program production part 14. In the user distribution part 13, streaming also of the manufactured local video voice program is carried out to the user terminal 4 with the gestalt of multicasting via LAN5, and it is reproduced in the user terminal 4.

[0019]Here, the local video voice program which did in this way and was manufactured is sold to the center system 3 via the Internet 6 from the local program sales department 15. In the center system 3, an operator purchases a local video voice program using the local program order department 34, can be sold to other local broadcasting station systems 1 like the video voice program which manufactured this with the center system 3, or can distribute it.

[0020]The history of viewing and listening of the video voice program distributed from the local broadcasting station system 1 in the user terminal 4 here is acquired by the distribution log acquisition part 16 of the local broadcasting station system 1 as a viewing-and-listening log. And the distribution logs acquired in each local broadcasting station system 1 are collected by the distribution log collecting part 35 of the center system 3 via the Internet 6.

[0021]Here the video voice program eventually distributed to the user terminal 4 as mentioned above, It can classify into the video voice program which was manufactured with the center system 3, or is purchased by the center system 3, and is distributed via the center system 3, and the video voice program which does not go via the center system 3 which is the video voice program manufactured by the local broadcasting station system 1. A video voice program can be classified into the video voice program of the live form distributed to real time, and the video voice program of the recording form distributed once it is

accumulated.

[0022]The sequence of the distribution about each classification of these video voice programs is shown in drawing 3. Drawing 3 a shows the distribution sequence of the video voice program of the recording form distributed via the center system 3. After a video voice program is manufactured with the center system 3 in this case so that it may illustrate (or purchase), as a contents file, it is accumulated in the center system 3 and purchased by the local broadcasting station system 1. And this contents file is transmitted to each local broadcasting station system 1 which purchased this video voice program by multicasting FTP via satellite communication after that at a suitable stage, for example, the midnight etc. when the traffic of satellite communication is small. In the local broadcasting station system 1 which received the contents file, this is once accumulated, the data of a contents file is passed to a desired time zone, LAN5 is passed to the user terminal 4, and streaming is carried out. Here, streaming to the user terminal 4 refers to distribution in the form to which the reproducing output of the video voice program is carried out, receiving the data of a video voice program to the user terminal 4. According to this embodiment, the gestalt of distribution of the video voice program in a cable TV network shall also be included in this streaming.

[0023]Next, drawing 3 b shows the distribution sequence of the video voice program of the live form distributed via the center system 3. In advance of manufacture of a video voice program, a video voice program is purchased by a \*\* office system in this case so that it may illustrate. And when the live made into the object of that video voice program is performed after that, in parallel to inclusion of that video voice program, streaming in the form of the IP multicast through the satellite communication to each local broadcasting station system 1 which purchased this video voice program is performed. In the local broadcasting station system 1 which received distribution, streaming is carried out to the user terminal 4 by relaying this to LAN5.

[0024]Next, drawing 3 c shows the distribution sequence of the video voice program of the recording form distributed without going via the center system 3. After a video voice program is manufactured by the local broadcasting station system 1 in this case so that it may illustrate, it is accumulated as a contents file and streaming of that data is carried out to the user terminal 4 via LAN5 in a desired time zone after that.

Finally, drawing 3 d shows the distribution sequence of the video voice program of the live form distributed without going via the center system 3. In this case, when the live made into the object of that video voice program is performed, in parallel to inclusion of that video voice program, streaming to the user terminal 4 through LAN5 is performed. In the above, the outline of this video voice program distribution system was explained. Hereafter, the details are explained. The composition of the center system 3 is shown in drawing 4. So that it may illustrate the center system 3, The center Web server system 301, the sales management system 302, the distribution scheduler 303, multicasting FTP server 304, the multicasting streaming server 305, the transmission control part 306, the radio equipment 307, the content management system 308, It has the program purchase processing part 309, the viewing-and-listening log management department 310, the program editing system 311, and the live relay system 312. The center system 3 has the contents library 321, the contents managing database 322, the distribution schedule table 323, and the sales information database 324.

[0025]Next, the composition of the local broadcasting station system 1 is shown in drawing 5. So that it may illustrate the local broadcasting station system 1, The local broadcasting station Web server system 101, the local multicasting streaming server 102, multicasting FTP client 103, the streaming relay part 104, IP router 105, the radio receiving equipment 106, the reception control part 107, the program managerial system 108, The user distribution scheduling system 109, the local program editing system 110, the local live relay system 111, the content purchase treating part 112, the user management part 113, the viewing-and-listening log transmission section 114, the local sales management system 115, It has the Web/FTP server system 116. The local broadcasting station system 1 has the program database 121, the program management data base 122, the user distribution schedule table 123, the user management data base 124, the viewing-and-listening log database 125, and the local sales information database 126.

[0026]Hereafter, the details of operation of such a video voice program distribution system are explained. First, sale and distribution of the video voice program from the center system 3 to the local broadcasting station system 1 are explained. In drawing 4, a program production person manufactures a video voice program using the program editing system 311, and registers with the contents library 321 as a contents file. The management information of the video voice program collectively registered into the contents managing database 322 from the content management system 308 to the contents library 321 at this time



is registered. On the other hand, about the video voice program which is due to be distributed in live form, an operator registers the management information of the video voice program into the contents managing database 322 for the management information of the video voice program in advance of manufacture of a video voice program.

[0027]As shown in drawing 6 a here, the management information about the video voice program registered into the contents library 321 and each video voice program which is due to be distributed in live form is recorded on this contents managing database 322. The management information of each video voice program has a type in which that discernment which is the content ID which is an identifier of a video voice program, and the video voice program registered into the contents library 321, or is a video voice program which is due to be distributed in live form is shown. When a video voice program is a video voice program registered into the contents library 321, The location on the contents library 321 of the contents file of the video voice program is shown, When a video voice program is a video voice program which is due to be distributed in live form, it has a resource location which shows the location of the live relay system 312 which relays the video voice program. When the video voice program is a video voice program which is due to be distributed in live form, The category which shows the classification of the streaming time showing the distribution predetermined-time belt, the drama to which the contents of the video voice program belong, professional baseball, variety, etc., the explanatory information explaining the contents of the video voice program, and the fee which is the selling price of the video voice program are registered.

[0028]Returning to drawing 4, the center Web server system 301 exhibits the Web page which receives the purchase of a video voice program on the Internet 6 according to the contents of the contents managing database 322. Here, the center Web server system 301 is a server system which comprises a Web server, a Web application server, etc.

[0029]Here, the example of composition of the Web page which receives the purchase of this video voice program is shown in drawing 7. Drawing 7 a is an example of composition of the Web page for purchase reception of the video voice program which is due to be distributed in live form, and it arranges explanatory information and distribution predetermined times, such as a title of each video voice program, and explanation, on a timetable so that it may illustrate. Drawing 7 b is an example of composition of the Web page for purchase reception of the video voice program registered into the contents library 321 as a contents file, and arranges explanatory information, such as the title and performer of each video voice program, explanation, and regeneration time, for every category.

[0030]Now, the user who accessed this Web page via the content purchase treating part 112 of the local broadcasting station system 1 of drawing 5, By checking a check box and pushing a buy button, between the center Web server systems 301, The control information used as the key for canceling the security for performing attestation by a suitable procedure and accounting, purchasing the video voice program, and eliminating unjust reception use of the video voice program, in being required comes to hand from the center Web server system 301. In the local broadcasting station system 1, the content purchase treating part 112 registers the management information which includes the control information which came to hand about the purchased video voice program for management information into the program management data base 122 via the program managerial system 108.

[0031]It returns to drawing 4, and in the center system 3, the sales management system 302 receives the information on sale of the video voice program by the center Web server system 301, and registers it into the sales information database 324. Discernment of the local broadcasting station system 1 which sold the video voice program is registered into the sales information database 324 for every content ID of the sold video voice program, for example.

[0032]Next, with reference to the sales information database 324 and the contents managing database 322 which the content management system 308 manages, the distribution scheduler 303 determines the schedule of distribution of each video voice program, and registers it into the distribution schedule table 323.

[0033]As shown in drawing 6 b, the content ID and the distribution predetermined time of the video voice program to distribute, and the multicasting IP address made into a distribution destination are registered into the distribution schedule table 323. A distribution predetermined time registers the streaming time registered into the contents managing database 322 about the video voice program distributed in live form as it is, About the video voice program registered as a contents file, suitable time, for example, midnight, is registered as distribution time of onset. A multicasting IP address registers the multicasting IP address set

up to the group of the local broadcasting station system 1 which purchased the video voice program.

[0034]Returning to drawing 4, the distribution scheduler 303 controls the multicasting streaming server 305 with multicasting FTP server 304, and makes a video voice program distribute according to the distribution schedule table 323. Namely, about the video voice program registered as a contents file. If it becomes the distribution time of onset registered into the distribution schedule table 323, To multicasting FTP server 304. A contents file is read from the location on the contents library 321 which the resource location registered into the contents managing database 322 to the content ID registered into the distribution schedule table 323 shows, A file transfer is carried out with satellite communication via the transmission control part 306 and the radio equipment 307 by making into a transmission destination the multicast address registered into the distribution schedule table 323. On the other hand about the video voice program distributed in live form. The video voice inputted into the multicasting streaming server 305 from the live relay system 312 which the resource location registered into the contents managing database 322 to the content ID registered into the distribution schedule table 323 shows, Streaming is carried out with satellite communication via the transmission control part 306 and the radio equipment 307 by making into a transmission destination the multicast address registered into the distribution schedule table 323 during the delivery predetermined time registered into the distribution schedule table 323.

[0035]In the above, sale and distribution of the video voice program from the center system 3 to the local broadcasting station system 1 were explained. Next, distribution of the video voice program from the local broadcasting station system 1 to each user terminal 4 and collection of the history of viewing and listening of the video voice program in the local broadcasting station system 1 and the center system 3 are explained. In the local broadcasting station system 1 shown in drawing 5, a local video voice program is manufactured using the local program editing system 110, and it registers with the program database 121 as a contents file. The management information of the video voice program collectively registered into the program database 121 from the program managerial system 108 at the program management data base 122 at this time is registered. On the other hand, about the video voice program which is due to be distributed from the local live relay system 111 in live form, an operator registers the management information of the video voice program into the program management data base 122 for the management information of the video voice program in advance of manufacture of a video voice program.

[0036]On the other hand, about the video voice program purchased from the center system 3, it is dealt with as follows. That is, the program managerial system 108 registers the management information about the video voice program into the program management data base 122, when a video voice program is purchased by the content purchase treating part 112. Here, the contents of the program management data base 122 are shown in drawing 8 a. So that it may illustrate to the program management data base 122. The local video voice program of the recording form which was manufactured with the local editing system and registered into the program database 121, Management information is registered about each of the video voice program which is due to be distributed in live form from the local live relay system 111, the video voice program of the recording form purchased from the center system 3, and the video voice program of the live form purchased from the center system 3.

[0037]The content ID which is ID given to each video voice program is registered into the management information of each video voice program. The local video voice program of the recording form which the video voice program manufactured with the local editing system to management information, and was registered into the program database 121, The type in which that discernment which is any of the video voice program which is due to be distributed in live form from the local live relay system 111, the video voice program of the recording form purchased from the center system 3, and the video voice program of the live form purchased from the center system 3 is shown is registered. The resource location of a video voice program is registered into management information. A resource location about the video voice program of recording form. The location on the program database 121 of the contents file of the video voice program, The location which shows discernment of the local live relay system 111 about the video voice program of the live form relayed from the local live relay system 111, About the video voice program of the live form purchased from the center apparatus, the location which shows discernment of the multicasting streaming server 305 of the center system 3 is described. However, about the video voice program of the recording form purchased from the center system 3, like the after-mentioned, when it actually memorizes to the program database 121 in response to distribution of the contents file of the video voice program, a resource location is registered. The live time which shows the distribution



predetermined-time belt registered into management information when the video voice program is a video voice program distributed in live form, The category of the contents of the video voice program, explanation of the contents of the video voice program, The control information for carrying out reception use of the video voice program which came to hand from the center Web server system 301 at the time of purchase registered when the video voice program is a video voice program purchased from the center system 3, The receiving settled one which means whether already received the contents file of the video voice program in being registered when the video voice program is a video voice program of the recording form purchased from the center system 3 is registered.

[0038]Now, return to drawing 5 and multicasting FTP client 103, Distribution by multicasting FTP through the satellite communication of the video voice program of the recording form purchased from the center system 3 is received via the radio receiving equipment 106 and IP router 105, The contents file which received is stored in the program database 121, the stored location is registered into the management information of the program management data base 122 corresponding to the video voice program, and it changes that the management information of the program management data base 122 corresponding to the video voice program ends with reception into settled. the video voice program itself distributed from the center system 3 here -- or, When the security for preventing unjust reception and use is set as distribution of the video voice program from the center system 3, The reception control part 107, Using the control information used as the key of the security release which the content purchase treating part 112 obtained from the center system 3 at the time of video voice program purchase, and registered into the program management data base 122, predetermined processing to IP router 105 or multicasting FTP server 304. By making it carry out, it receives and this video voice program is made available. The same may be said of the reception and use of a video voice program in the streaming relay part 104 mentioned later by which multicasting streaming is carried out from the center system 3.

[0039]Next, in the local broadcasting station system 1, an operator, using the management information registered into the program management data base 122 using the user distribution scheduling system 109. The schedule of the video voice program distribution to the user terminal 4 is created, and it registers with the user distribution schedule table 123.

[0040]As shown in drawing 8 b, the content ID of the video voice program to distribute, the distribution predetermined time which shows the distribution predetermined-time belt of the video voice program, and the channel which distributes the video voice program are registered into the user distribution schedule table 123. The local multicasting streaming server 102 performs multicasting streaming of the video voice program through LAN5 to the user terminal 4 according to the user distribution schedule table 123. Namely, if it becomes a time zone which should distribute the video voice program of recording form, It asks for the contents file of the video voice program with reference to the program management data base 122, The contents file for which it asked is read from the program database 121, and multicasting streaming is carried out as a stream of the channel (URL) registered into the user distribution schedule table 123 by LAN5. If it becomes a time zone which should, on the other hand, distribute the video voice program relayed from the local live relay system 111 in live form, It asks for the local live relay system 111 which relays the video voice program with reference to the program management data base 122, Multicasting streaming of the video voice inputted from the local live relay system 111 for which it asked is carried out to LAN5 as a stream of the channel registered into the user distribution schedule table 123. If it becomes a time zone which should distribute the video voice program distributed on the other hand in the live form purchased from the center, Reception through the radio receiving equipment 106 of the video voice program by which multicasting streaming is carried out to the streaming relay part 104 from the center system 3, and IP router 105 is made to perform, In parallel to the reception, multicasting streaming of the video voice program stream which the streaming relay part 104 received is carried out as a stream of the channel registered into the user distribution schedule table 123 by LAN5.

[0041]Now, viewing and listening by the user terminal 4 of the video voice program by which multicasting streaming was carried out in this way to LAN5 can be performed with the following gestalten here, for example, when carrying out using Web art. Namely, the local broadcasting station Web server system 101, With reference to the user distribution schedule table 123 and the program management data base 122, the Web page showing the user distribution schedule table 123 as shown in drawing 9 a is exhibited on LAN5 or LAN5, and the Internet 6. From the web browser on the user terminal 4, a televiewer user accesses this Web page and grasps the distribution schedule of each channel. And in viewing and listening to a video



voice program, it clicks the display of the channel of a video voice program to view and listen. A web browser will access the clicked video voice program distribution page for channels which the local broadcasting station Web server system 101 exhibits on LAN5 as shown in drawing 9 b according to description of the link in a Web page, if this click is received.

[0042]As shown in drawing 9 b, the video voice program distribution page for each channels, . The local multicasting streaming server 102 is carrying out multicasting streaming into the Web page. An in-line indication of the image of the video voice program of the channel is given by a web browser or its plug-in, and it is constituted so that the sound of a video voice program may be outputted by a web browser or its plug-in. The form for receiving the reply of the questionnaire about that video voice program, etc. are provided in this video voice program distribution page by the televiewer user. However, the form of this questionnaire can be displayed in another window in pop-up form. Anyway, it is good in push form to make it make it display on a web browser or its plug-in so that the contents of the questionnaire can be suitably updated from the local broadcasting station Web server system 101 side.

[0043]Now, it returns to drawing 5 and the local multicasting streaming server 102 and the local broadcasting station Web server system 101 accumulate the history of access to the video voice program stream of each Web page of the above viewing-and-listening users, or each channel in the viewing-and-listening log database 125. In being required, the user management part 113 performs restriction of access of each viewing-and-listening user, accounting to video voice program viewing and listening to each viewing-and-listening user, etc. with reference to the management information of the viewing-and-listening user who has managed with the user management data base 124. The answer input to a viewing-and-listening user's questionnaire in the video voice program distribution page shown in drawing 9 b, With a web browser or its plug-in, according to the description in a video voice program distribution page, it is told to the local broadcasting station Web server system 101, and the local broadcasting station Web server system 101 stores the reply of the received questionnaire in the viewing-and-listening log database 125.

[0044]Here, the contents of this viewing-and-listening log database 125 are suitably sent to the viewing-and-listening log management department 310 of the center system 3 by the viewing-and-listening log transmission section 114 within the limits of a request according to the demand through the Internet 6. In the above, distribution of the video voice program from the local broadcasting station system 1 to each user terminal 4 and collection of the history of viewing and listening of the video voice program in the local broadcasting station system 1 and the center system 3 were explained. Hereafter, sale of the local video voice program from the local broadcasting station system 1 to the center system 3 is explained. The Web/FTP server system 116 of the local broadcasting station system 1, The Web page for receiving the purchase of the local video voice program which was created with the local program editing system 110, and was registered into the program database 121 with reference to the contents of the program management data base 122 is exhibited on the Internet 6. This Web page may be the same as that of what was shown in drawing 7 b.

[0045]Via the program purchase processing part 309, the operator of the center system 3 accesses this Web page, chooses a desired video voice program, and performs predetermined purchase procedure between the Web/FTP server systems 116 of the local broadcasting station system 1. If this purchase procedure is completed, the Web/FTP server system 116 will read the contents file of the purchased local video voice program from the program database 121, and will carry out unicast FTP transmission via the Internet 6 at the center system 3. The local sales management system 115 of the local broadcasting station system 1 registers the information on sale of this video voice program into the local sales information database 126.

[0046]On the other hand in the center system 3, the program purchase processing part 309, Storing in the contents library 321 the contents file by which FTP transmission was carried out, an operator registers the management information of this video voice program into the contents managing database 322 via the content management system 308. Henceforth, the video voice program purchased from this local broadcasting station system 1 is dealt with like the video voice program created with the program editing system 311. Therefore, the video voice program purchased from this local broadcasting station system 1 can also be sold to other local broadcasting station systems 1 from the center system 3.

[0047]In the above, sale of the local video voice program from the local broadcasting station system 1 to the center system 3 was explained. In the above, one embodiment of this invention was described. By the way, it may be made to constitute the local broadcasting station system 1 as the center system 3 and one

in an above embodiment. By doing in this way, as shown in drawing 10, each local broadcasting station system 1 can distribute a video voice program now mutually by multicasting as the center system 3 to the other local broadcasting station systems 1. Registration of a video voice program to form the Web server system 9 for trading in the video voice program which each local broadcasting station system 1 sells systematically in this case on the Internet 6, and sell each local broadcasting station system 1 to, It is good to enable it to perform purchase procedure of a video voice program systematically to the Web server system 9. Each local broadcasting station system 1 which received the notice of sale of a video voice program from the Web server system 9 may be made to perform distribution to the other local broadcasting station systems of a video voice program also in this case.

[0048]Although the multicast transmissions which used satellite communication performed distribution of the video voice program from the center system 3 to each local broadcasting station system 1 above, the multicast transmissions using the suitable communication of those other than satellite communication can realize this.

[0049]When LAN5 can blockade to broadcasting, it may be made to carry out three ming distribution of the video voice program from the local broadcasting station system 1 at the user terminal 4 in broadcasting form.

[0050]

[Effect of the Invention]As mentioned above, according to this invention, the video voice program distribution system which can distribute various video voice programs efficiently can be provided, without needing special equipment for an end user.

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[Translation done.]